

AMENDMENTS TO THE CLAIMS:

Please amend the claims as follows:

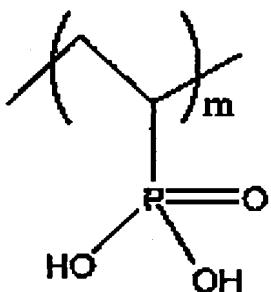
1. (Previously Presented) A method for forming a pattern on a semiconductor device comprising:

coating a photoresist film on a semiconductor substrate;

applying the organic anti-reflective coating composition on a top portion of the photoresist film, the organic anti-reflective coating comprising:

a polymer represented by the following formula I

Formula I



wherein m is an integer ranging from 5 to 5000; and

exposing and developing the photoresist film to produce a photoresist pattern.

2. (Previously Presented) The method according to claim 1, wherein the polymer has a molecular weight ranging from about 2,000 to about 10,000.

3. (Previously Presented) A method for preparing the organic anti-reflective coating used in the pattern forming method of claim 1 comprising:

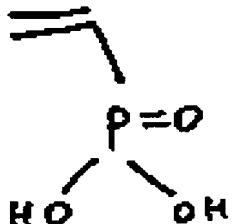
dissolving vinylphosphonic acid having a structure represented by the following formula II in organic solvent;

adding a polymerization initiator to the dissolved solution; and

conducting free-radical polymerization under vacuum condition, at a temperature ranging from about 60 to about 70°C for a time period ranging from about 2 two hours to

about 6 six hours to produce the organic anti-reflective coating polymer of Formula 1 of claim 1[[.]]:

Formula II



4. (Previously Presented) The method according to claim 3, wherein the organic solvent comprises at least one material selected from the group consisting of tetrahydrofuran, cyclohexanone, dimethyl formamide, dimethyl sulfoxide, dioxane, methylethylketone, PGMEA, ethylacetate, benzene, toluene, xylene, and mixtures thereof.

5. (Previously Presented) The method according to claim 3, wherein the polymerization initiator comprises a material selected from the group consisting of 2,2'-azobis isobutyronitrile (AIBN), benzoyl peroxide, acetyl peroxide, lauryl peroxide, t-butyl peracetate, t-butyl hydroperoxide, di-t-butyl peroxide, and mixtures thereof.

6. (Previously Presented) The method according to claim 4, wherein the polymerization initiator comprises a material selected from the group consisting of 2,2'-azobis isobutyronitrile (AIBN), benzoyl peroxide, acetyl peroxide, lauryl peroxide, t-butyl peracetate, t-butyl hydroperoxide, di-t-butyl peroxide, and mixtures thereof.

7. - 12. (Cancelled)

13. (Previously Presented) A method for forming a pattern on a semiconductor device comprising the steps of:

coating a photoresist film on a semiconductor substrate;

applying an organic anti-reflective coating composition on a top portion of the photoresist film; and

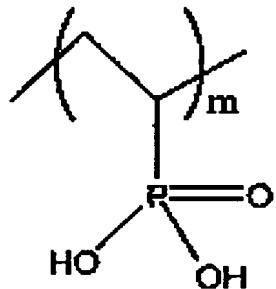
exposing and developing the photoresist film to produce a photoresist pattern,

said coating composition comprising:

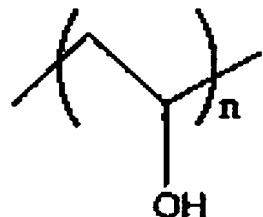
a polymer represented by the following formula I; and

at least one polymer selected from a the group consisting of formula III, formula IV and mixtures thereof:

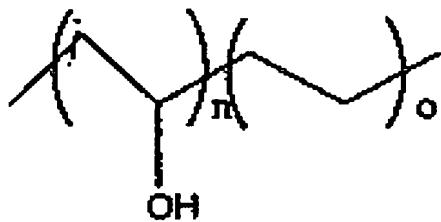
Formula I



Formula III



Formula IV



wherein, in above formulas, m, n and o are integers ranging from 5 to 5000.

14. (Previously Presented) The method according to claim 13, further comprising a baking process before or after the exposing step.

15. (Previously Presented) The method according to claim 13, comprising carrying out the developing step using an aqueous solution of about 0.01wt% to about 5wt% tetramethylammonium hydroxide (TMAH) as a developing solution.

16. (Previously Presented) The method according to claim 15, comprising carrying out the developing step using an aqueous solution of about 0.01wt% to about 5wt% tetramethylammonium hydroxide (TMAH) as a developing solution.

17. (Canceled)